

ATTACHMENT C

ALAMEDA COUNTY WASTE MANAGEMENT GUIDELINES (Introduction and Table of Contents)

HOME REMODELING

GREEN BUILDING GUIDELINES

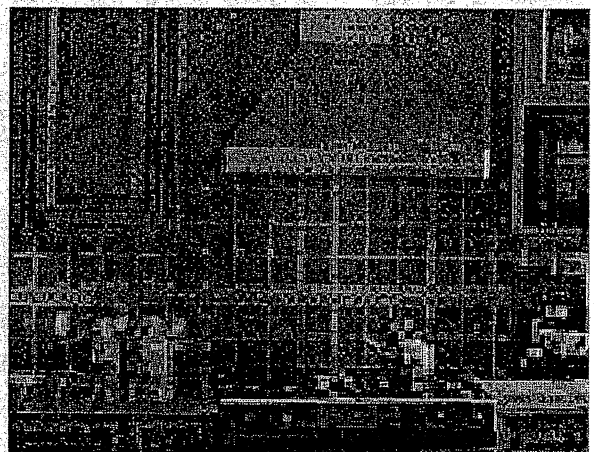
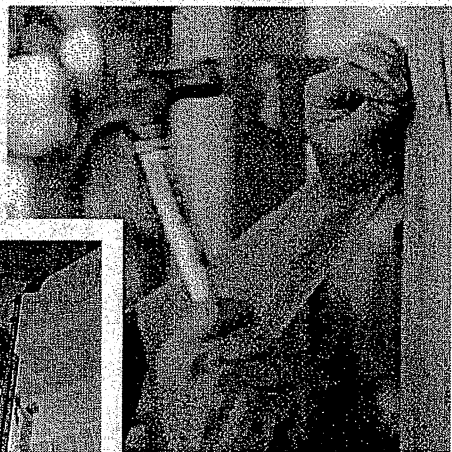


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Introduction

Green building is just applied common sense. To demystify the process and move forward with your construction project, it is helpful to think of green building as the convergence of three fundamental objectives:

- 1 **Conserve natural resources**
- 2 **Increase energy efficiency**
- 3 **Improve indoor air quality**

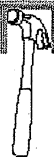
Natural Resource Conservation

Conventional building practices consume large quantities of wood, plastic, cardboard, paper, water and other natural resources that lead – unnecessarily – to their depletion.

For example, wood is one of the most common building materials, but is often used wastefully. We have already harvested 95% of the nation's old-growth forests – a trend that simply cannot continue. Engineered lumber products such as wood I-joists, wood fiber laminates and oriented strand board, utilize fast growing farm trees as an alternative to old-growth forests. These products can use as little as 50% of the wood fiber to perform the same structural functions and are typically stronger, straighter and lighter than solid-sawn lumber.

Remodelers have a rapidly expanding range of green building materials from which to choose. Recycled-content decking, insulation, reclaimed lumber and other products divert waste from landfills, while providing quality and durability that often exceed conventional materials. For example, decking material made out of recycled plastic resins mixed with wood waste fibers can last up to five times longer than wood decks, and never need to be treated or painted.

Water conservation is another important issue. Wise water usage reduces the strain on resources as well as lowers expenses. Today, remodelers can take advantage of a new generation of high-efficiency washers, dishwashers, and landscape water management systems.



CONTRACTOR TIP

PROVIDE A HOMEOWNER'S MANUAL OF PRODUCTS INSTALLED

Provide homeowners with a product manual that describes the benefits of the various green materials installed and how to maintain them. Informing the homeowner about the green features and products will ensure the effective use and maintenance of the features for many years after the project is completed.

Energy Efficiency

Energy efficiency is a cornerstone of any green building project. Generation and use of energy are major contributors to air pollution and global climate change. Improving energy efficiency and using renewable energy sources are effective ways to improve air quality and reduce the impacts of global warming.

Improving energy efficiency is also an economically effective choice for consumers. Lowering utility expenses allows residents to enjoy the financial benefits year after year.

The first step to increase energy efficiency is to add insulation and weather stripping wherever possible, install double-glazed/low-E windows and upgrade to high-efficiency appliances. Other energy upgrades/choices include installing solar water heaters, photovoltaic panels, and purchasing "green power" generated from renewable sources like the sun, wind and biomass (when available).

Indoor Air Quality

The United States Environmental Protection Agency (EPA) reports that the air in new homes can be ten times more polluted than outdoor air. According to the New England Journal of Medicine, 40% of children will develop respiratory disease, in part, due to the chemicals in their homes. Poor indoor air quality is caused by the offgassing of chemicals found in many building materials as well as mold and mildew that build up in homes due to poorly designed and maintained heating and cooling systems.

One of the most common indoor pollutants is formaldehyde, a suspected human carcinogen. Kitchen cabinets, countertops, shelving and furniture are typically made from particleboard held together by formaldehyde-based adhesives. The formaldehyde is released into the home for years after these products have been installed. Many paints and floor finishes also contain unhealthy volatile organic compounds (VOCs). That "new house smell" is actually the odor of these volatile compounds offgassing and is a telltale sign that there are harmful chemicals in the indoor environment.

The building products industry has responded to these indoor pollution problems by developing alternative paint, finish, and adhesive products. For example, solvent-free adhesives used in flooring and countertops can eliminate many of the suspected and known human carcinogens. Paints, varnishes, and cleaners that don't utilize volatile compounds are now commonly available from most major manufacturers at costs comparable to conventional products.

In addition to the growing number of readily available and cost-effective green materials – an increasing number of builders and remodelers are also using natural building materials such as straw-bale, rammed earth, adobe and cob. While less common in their use, natural building products have a positive impact on the environment as they are renewable and abundant; energy-efficient in production, transport and use; non-polluting; durable and long lasting.



Benefits of Green Building

There are many reasons to build green. These include a concern for the environment, an interest in building more efficiently, health considerations or a desire to create an environmentally friendly image for your business. By applying a sustainable perspective to design, construction and remodeling, green building brings the benefits of resource conservation, energy savings and healthy living.

Each of the features listed in these Green Building Guidelines benefit the environment by addressing one or more of the following: resource conservation, energy efficiency, indoor air quality.

Cost Considerations

While green building and its environmental benefits are becoming more mainstream, it is commonly assumed that green building features and products translate into additional costs. What is often overlooked is the added value that green building contributes to the home: energy-efficiency, improved indoor air quality, healthier homes for the family, and durability. These Guidelines recommend methods and materials that range in cost—some of them cost no more or even less than conventional options.

Often the homeowner focuses on the “up-front” costs (materials and installation) to incorporate green features into a home. When other factors are considered, such as lower maintenance and operation costs, many of the recommended strategies in these Guidelines offer tangible economic benefits to the homeowner. Energy upgrades alone usually result in a payback through lower monthly energy costs.

When considering green building measures, it is very important to balance product and installation costs with other significant benefits such as energy savings, increased durability, enhanced air quality and healthier homes for occupants.

